

# The Development of Instructional Model for the weaving of ULOS Batak Toba Aided with Audiovisual Media in Sman 1 Tarutung

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**Abstract**— *The purpose of this research is to develop instructional model on Ulos Batak Toba weaving aided with audiovisual media. In this study, respondents were grade X and grade XI students of SMAN 1 Tarutung. The research design was development research purposed by Borg and Gall that modified by the step of development according to Dick and Carey. Data collecting technique were document study, interview, questioner, and achievement test. The experts' validation, evaluation one to one, evaluation of small group and field test were done to know the product feasibility. Then, based on the result of evaluation, it was known that the instructional product was very feasible to be used, but it still needed a revision. The result of data analysis on field trial group showed that students' score was higher than the criteria of minimum completeness ( $85.84 > 80$ ). Finally, it can be concluded that instructional model on Ulos Batak Toba weaving by assisting of audiovisual media in SMAN 1 Tarutung is effective and able to increase students' skill in weaving ulos.*

**Keywords**—*development, instructional model, the weaving of Ulos Batak Toba, audiovisual media.*

## I. INTRODUCTION

The twenty-first century society is a mega society of competition where world is more open and competing to do something better and continuously, that is to continually pursue quality and excellence or quality resources (Tilaar, 1999, p. 35). Education is one of the most strategic key in human resource development effort. One of the educational roles in the twenty-first century is contributing to work and society where to be a productive contributor to society in our twenty-first century, you need to be able to learn the core content of a field of knowledge while also mastering a broad portfolio of essential learning, innovation, technology, and career skills needed for work and life (Trilling and Fadel, 2009, p.15-16). The role of education is also to shape the human resources that are able to contribute to work and participation for the community. Therefore, the

implementation of education is no longer just to produce individuals who are ready to find work, but individuals who are ready to work or create jobs. Thus, to be able to compete in the world of work is not enough just to learn to add knowledge only, but learn to be able to do. By mastering life skills will provide a significant difference to the level of productivity and quality of life (Power, 2015, p.97-98). The phenomenon that obtained through interviews with stakeholders representing graduates, parents, organizers and teachers show that local skills training given in SMA Negeri 1 Tarutung since 2006 are still mismatches to the needs. Local skills training in the form of choir director (arts) and computer have not provided significant benefits for graduates. Students who do not continue their education to college can not do much to get a job. Based on the information obtained from the principals, it is known that they have long accepted the suggestion of some elements of society to increase the local content of skills with ulos weaving lessons, but it has not materialized because there is no teacher who is able to develop the learning tools needed for the skills lesson. So, the researcher is interested in developing a model of learning on weaving ulos Batak Toba in SMAN 1 Tarutung. It is a research focus in order to meet the demands of user needs and simultaneously to preserve the tradition of weaving ulos in the future.

## II. REVIEW OF RELATED LITERATURE

The model developed in this study is an independent learning model in the conventional context where independent learning is not based on e-learning but by using instructional materials in the form of print module integrated with instructional video tutorial, which is designed specially so that students can study material theory and practice optimally and independently. The self-learning process is done through the learning tasks given in the module to be done independently by the learners (Salandanan, 2009, p. 164-165). Because the ulos weaving learning materials are dominated by practice materials or psychomotor skills then this model comes

with ulos ulos weave tutorials video to help learners master the material. Learners can see how the technique is perfect done hundreds of times without boring. Video has the advantage because its' movement can be slowed or paused to analyze complex techniques in every minute development (Kim, 2002, p. 133). In developing this learning model of weaving ulos Batak Toba, the developers adapted the Dick and Carey instructional (2009, p. 6-8) instructional model, modified by Borg and Gall's development research procedure and limited to the fifth stage of revising the initial product (Borg and Gall, 1983, p. 775).

### III. RESEARCH METHOD

This research is a developmental research that using a mixed method. Creswell (2012, p. 535) states that a mixed methods research design is a procedure for collecting, analyzing, and mixing both quantitative and qualitative methods in a single study or a series of studies to understand a research problem. The purpose of development research is not to formulate and test theories, but to develop effective products that use in schools (Subong, 2005, p. 147). The initial prototype of the developed product was validated by 3 experts covers material experts, design experts and media experts. The objective is to obtain an assessment of the products developed and also to determine the feasibility of the product to be used. Further product trials are conducted with one-to-one evaluation by 3 students of class X, small group evaluation by 15 students of science grade XI and field trials by 35 students of grade X and XI. They were students of SMA Negeri 1 Tarutung. Instruments were documentation, interview guides, questionnaires and test. The test was a multiple choice test, and practice test in the form of performance test. While the effectiveness criteria of the product or model developed is determined by consulting the final value of learning achievement against minimum criteria of mastery learning is 80. The product is effective if the average value of student learning outcomes based on knowledge and practice tests higher than minimum criteria of mastery learning (80).

### IV. RESULT AND DISCUSSION

#### 4.1. The Results of Products Development

##### 1. The Results of Planning Stage

###### a. Identify instructional goals

Based on needs analysis, the instructional objective at the end of the learning is students are expected to be able to weave ulos Batak Toba.

###### b. Conduct instructional analysis

The result of instructional analysis as follows:

Instructional objective: students are expected to be able to weave ulos Batak Toba.

General behaviour: weaving ulos Batak Toba

Specific behaviour:

1. Explain the notion and history of weaving
2. Explain the understanding and philosophy of giving ulos
3. Describe the type and function of the ulos in social role
4. Explain the types of tools and materials for weaving
5. Perform yarn measurement
6. Doing yarn rolling
7. Doing *mangani*
8. Doing *manotar*
9. Doing *mamutik*
10. Making a compact
11. Conduct the woven fabric

##### c. Identify Entry Behaviors and Learner Characteristics

In general, the initial characteristics of SMAN 1 Tarutung students do not have a good understanding of weaving ulos Batak Toba. Thus, the preparation of specific instructional goal starts from the very beginning.

##### d. Write Performance Objectives

The formulation of specific instructional objective was carried out by considering the results of the identification of the initial characteristics of the students as well as the previous instructional analysis which is outlined in accordance with the specific behavior with a mastery level at least 80 % correct.

##### e. Develop Criterion-Referenced Test Items

A multiple-choice form test with 5 options was used to measure the students' mastery on knowledge material (theory). Furthermore, performance test was used to measure the mastery of practice materials.

#### 2. Results of Instructional Product Development Stage

At this stage, a prototype of initial product is produced in the form of a module and learning video of weaving ulos Batak Toba which is equipped with instructions for students and teacher's guide.

#### 3. Results of Instructional Product Evaluation Stage

At this stage, a formative evaluation of the initial prototype has been developed. This evaluation is conducted in several stages: expert evaluation, individual, small group and field trial.

#### 4.2. Product Effectiveness

It is necessary to perform a formative evaluation (feasibility test) after the initial prototype is developed. The aim is to find the existing deficiencies in order to make improvements and simultaneously

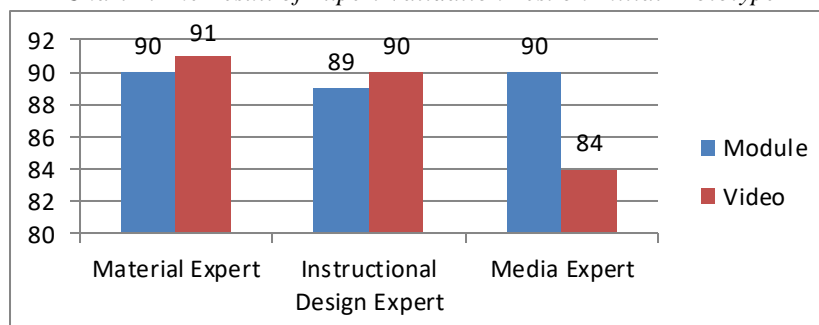
measure the effectiveness of the developed model.

The stages are as follows:

#### 1. Expert Evaluation

Expert evaluation was done by material expert, instructional design expert and media expert. The assessment results of the three experts can be seen in the following figure:

Chart 1. The Result of Expert Validation Test on Initial Prototype



Based on the questionnaire analysis of three experts on the feasibility of the module and video tutorial developed, indicating that the module and video is feasible to be used, but still needs to be revised.

#### 2. Individual Evaluation

Based on individual evaluation analysis, it is known that the entire module component developed has been empirically feasible with the average percentage of feasibility reach 91%. The category is very feasible but still needs to be revised. Similarly, developed videos are eligible empirically with an average percentage of eligibility reach 90%. It is very viable categories without any revisions. The revised instructional product of this individual evaluation is called draft 3.

#### 3. Small Group Evaluation

Based on small group evaluation analysis, it is known that the entire module component developed has been empirically feasible with the average percentage of eligibility reach 89%. It is very feasible category but still needs to be revised. Furthermore, results of small group evaluation analysis shows that the overall component of the developed video has been empirically feasible, with an average percentage of eligibility as a whole reach 89%. It is very feasible and without any revisions.

#### 4. Field Trial

Based on the result of knowledge and practice test that has been conducted in the field trial group, it was gained the average value of learning result was 85.84 higher than 80 (minimum criteria of mastery learning). This indicates that the product or model developed is effective.

#### 4.3. Discussion

Based on expert evaluation, individual evaluation and small group evaluation conducted on product quality, indicate that the instructional product developed is feasible to be used. Furthermore, the results of field trials was obtained the average of the final value of the field study learning outcomes is higher than minimum criteria of mastery learning ( $85.84 > 80$ ). It means that the model product developed is effective to be used. In the implementation of the development of this model found several supporting factors such as parent support and graduates. The skill of weaving ulos become a skill for student at SMAN 1 Tarutung and the school welcomes the researcher's plan to develop the ulos weaving learning model. Whereas the inhibiting factor is required a big cost in the development process is done.

### V. CONCLUSION

Based on the results of feasibility test, it can be concluded that theoretically and empirically product developed are very feasible to use after the revision. Furthermore, based on the post-test conducted at the end of the learning, obtained the average value of the overall end of the students is higher than the value of minimum criteria of mastery learning ( $85.84 > 80$ ). Thus, it can be concluded that the learning model of weaving ulos Batak Toba which is developed in SMAN 1 Tarutung has been effective. The average score of pre-test from 57,74 to 85,84 in post-test at the same time proves that the use of developed model can improve students' skill in weaving ulos.

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